DOCUMENT RESUME

ED 050 681 HE 002 173

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TITLE	The Validity of Academic Predictors for Black and White Students at the University of Maryland.
INSTITUTION	Maryland Univ., College Park. Cultural Study Center.
REPORT NO	RR-2-70
PUB DATE	70
NOTE	30p.
EDRS PRICE	EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS	*Academic Achievement, Achievement Tests, *College Freshmen, Correlation, Grade Point Average, Grades (Scholastic), *Higher Education, *Negro Students, *Predictive Validity
IDENTIFIERS	*Maryland University

ABSTRACT

Recent studies have shown that in heterogeneous populations differential validities are often found in the population subgroups. In the light of the increasing societal emphasis on higher education, the valid prediction of academic success for all racial groups has become a necessity. This study is concerned with the differential validity for black and white students of academic predictors currently used at the University of Maryland. The University uses a Predictive Index Equation, which is a multiple regression equation involving high school grades, SAT-Verbal and SAT-Math scores. The Maryland grade-point average at the end of the freshman year is used as the criterion. In this study high school grades, SAT-V and SAT-M were examined separately as well as combined in multiple regression equations. The samples were categorized by race and sex. The results indicated that the Predictive Index worked as well for black students as it did for whites. For the sample studied, SAT scores were correlated with grades about as highly for whites as for blacks, although high school grades were not a valid predictor for black males. In addition to describing the study, the report examines other studies concerned with this topic. (AF)

ED050681

Cultural Study Center

University of Maryland
College Park, Maryland

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THE VALIDITY OF ACADEMIC PREDICTORS FOR BLACK AND WHITE STUDENTS AT THE UNIVERSITY OF MARYLAND

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Research Report # 2-70

HE002173

Portions of this study were included in the Master's Thesis of the principal author, Department of Psychology, University of Maryland, 1970.

Acknowledgments

The writers wish to thank Glenwood C. Brooks, Jr. for his aid in developing data for the study and C.Jack Bartlett and Irwin L. Goldstein for their comments and suggestions.

Summary

Recent studies have shown that in heterogeneous populations differential validities are often found in the population subgroup. This fact has important implications for prediction in racially integrated groups. This study examined the validity of the Predictive Index currently employed by the University of Maryland. Results indicated that the Predictive Index worked as well for black students as it did for whites. The writers caution against artifacts in the interpretation of the results, noting that since only those blacks who decided to come to the University and stayed in school a full year were studied, one does not know how well the Predictive Index works for other blacks with the ability to do college work. Furthermore, for the sample studied, SAT's were correlated with grades about as highly for whites as for blacks, although high school grades were not a valid predictor for black males.

Future research studies will focus on developing unique variables associated with the success of black students.

Introduction

Racial equity in selection has become increasingly more important in both the industrial and the academic setting. In recent years the topic has become politically and legally viable. The literature has reflected this increasing concern, as psychologists have attempted to validate prediction instruments, and to understand all facets of the selection situation. While many studies have been performed in an industrial setting, academic prediction has also been of vital concern. This study deals with the academic prediction of racial sub-populations at the University of Maryland.

A major fallacy which has led to unwitting discrimination is the assumption of homogeneity of populations. It is assumed that if a test is valid for an entire population it is valid for each subgroup of that population. Such may be the case, but there are many instances in which this assumption is erroneous. Bartlett and O'Leary (1969) have presented a model of differential prediction to moderate the effects of heterogeneity in a population. They have presented instances of differing validities in subgroups from data reported in the literature; instances in which, if the predictors were used for the population as a whole, erroneous selection decisions might easily be made.

The moderator variable approach has been one method of dealing with heterogeneity. The population is divided into subgroups which are more homogeneous. Validity is checked separately in each subgroup. A moderator variable, then, is any variable which distinguishes subgroups of a population for which subsequent validity checks are individually made.

Many different variables have been used as moderator variables in an academic setting. Hoyt and Norman (1954) successfully used maladjustment as a moderator to increase the validity of the Ohio State Psychological Examination (Form 22) in predicting grade-point average in college; although Anderson and Spencer (1963) were unable to replicate the finding with a larger sample. Grooms and Endler (1960) used an anxiety measure as a moderator to increase predictability of college grades. Seashore (1954) and Eells (1961) investigated predicability of grades for students divided according to their major course of study; and Abelson (1952) was one of many investigators to discover that males are less predictable than females.

Prediction for Blacks and Whites in an Academic Setting

Predictor validation in racial subgroups has been performed using several academic achievement tests. Results have generally conformed to the first illustration of the Bartlett and O'Leary model: namely, that of equal validity in subgroups, with differences in predictor and criterion mean performances. The pattern of differential and opposite subgroup validity which Farr (1970) notes in an industrial setting has not been commonly found in an academic setting.

Cleary (1966) investigated the validity of the Scholastic Aptitude Test (SAT) for black and white students in three integrated colleges. Two of the schools were eastern state-supported institutions. In these schools both the predictor and criterion means were lower for the black students. In the first school the correlations of SAT - Verbal (V) were virtually identical for both subgroups, but SAT - Math (M) was found to be unrelated to Grade Point Average (GPA) for the blacks. In the second eastern school

High School Rank (HSR) was available in addition to SAT-V and SAT-M. All three correlations with GPA were low for the black group with only SAT-V approaching significance. Cleary does not report on the significance of the difference between black and white correlations, although the white correlations were higher. In the third institution, which was a state-supported school in the southwest, the correlations of SAT-V, SAT-M, HSR and High School Average (HSA) were generally higher, with no great differences between black and white.

The multiple regression equations were found to be very similar for black and white samples. Only in the school in the southwest did the predicted scores differ as a function of which sample regression equation was used. In that school, use of a common regression equation or a regression equation based on a white sample would result in a higher predicted score than would use of a black regression equation.

Hills and Gladney (1966) reported that in three predominantly black colleges in Georgia, SAT scores were equally as predictive as in predominantly white institutions, even though black students' scores were very near the scores that could have been achieved by chance on the tests.

Munday (1965) found that ACT scores correlated as high with criterion data in five predominantly black colleges as in typical white colleges. McKelpin (1965) obtained similar results using the SAT at predominantly Negro North Carolina at Durham.

Hills (1964) has summarized several reports from the University System of Georgia. He noted that the SAT scores for males were much lower at three predominantly black colleges than at the predominantly white Georgia Institute of Technology. The respective means were: SAT-V: 270 and 500, and

SAT-M: 305 and 530. Nevertheless, multiple regression equations involving the SAT scores were equally valid for black and white; the multiple correlation coefficient was .57 at the black schools and .58 at Georgia Tech.

Stanley and Porter (1967), using data reported by Hills, analyzed biracial prediction within the University System of Georgia more fully. The sample of white males came from 15 predominantly white colleges and universities, and the sample of white females from 14 such colleges. The black sample came from the same three predominantly black schools. The study extended over six academic years. The results, which were reported graphically, indicate large differences between black and white for the means of both SAT-V and SAT-M. Additionally, white males received higher scores on the SAT-M than white females, and black males slightly higher scores than black females. Moreover, the standard deviations on both scales were lower for the black groups. When comparing correlations coefficients, Stanley and Porter found that white females were significantly better predicted than black females (p .01) by both SAT-V and SAT-M. White males did not exhibit similar increased predictability over black males; and, in fact, black males were predicted better than white males by SAT-V scores in five of the six years.

Multiple R's were computed for the four groups using SAT-V, SAT-M, and high school grades. The R's were: white female, .72; black female, .63; black male,.60 and white male, .60.

Stanley and Porter (1967) repeated their study, drawing the white sample from schools which were analogous to the black colleges (i.e., four-year, coeducational colleges) hoping to reduce invalidity due to the heterogeneity of non-black colleges. The three non-black colleges chosen were those in

which the students had scored lowest on SAT-V and SAT-M. The results were "in general, congruent with those from the analyses above.... White women are much more predictable than white men, Negro women, or Negro men, and this holds for SAT-V, SAT-M, and SAT-V and SAT-M and high school grades."

The pattern of equal validity in black and white populations, which has been found in a majority of studies considering standardized aptitude tests as predictors of college grades, has not been discovered when considering high school grades as predictors. Thomas and Stanley (1969), reviewing the literature, cite five studies which indicate that high school grades are not as effective as standardized tests for predicting college success for blacks . [Munday,(1965), Cleary (1966), Peterson (1968), Funches (1967), and McKelpin (1965)] They present a further analysis of the data reported by Hills which likewise indicates "the superiority of test scores over high school averages as predictors of college grades for black males. " Several of the studies cited indicate that the invalidity of high school grades is more serious for black males than females.

Several investigators have examined the relation of aptitude tests to grades in secondary school. Boney (1966) compared zero-order correlation coefficients between Differential Aptitude Test (DAT) scores and high school grades for his sample of black males and females in a secondary school in Texas and a sample of white students reported by Jacobs (1959). Correlations for Boney's black samples were generally higher than Jacobs' white sample, but the traditional female superiority in prediction was not confirmed. Boney also combined a battery of predictors in a multiple regression equation. His basic conclusion was that "Negro students appeared to be as predictable as other groups."

Green and Farhquhar (1965) found that no significant correlation existed between the verbal score of the School and College Ability Test (SCAT) and GPA for black males in a sample of high school students from Detroit. However, the correlation was significant for black females ($p < .05$).

A review of the literature thus indicates that in most instances racial divisions of a population yields equal validity in the subgroups of the same order of magnitude as is found in the combined sample for standardized aptitude tests. Cleary (1966) reported this result in two out of three schools when using a multiple predictor including SAT scores and high school average. Hills and Gladney (1966) found SAT validity in black colleges in Georgia equal to that achieved in predominantly white institutions. McKelpin (1965) found similar results in North Carolina. Likewise, using the ACT, Munday (1965) found blacks equally predictable. Hills (1964) found SAT scores equally predictive for both races in the University System of Georgia; Boney (1966) found black secondary school students to be as predictable as whites.

Nevertheless, there appear instances in which racial division does indicate differential validity in subgroups. Cleary's results show the zero-order correlation coefficient between SAT-M and GPA to be insignificant for blacks in two out of three schools; SAT-V was unrelated to GPA in one out of three schools. Using a multiple predictor, blacks were over-predicted in one out of three schools. Stanley and Porter (1967) indicate that white females are more predictable than white males, black females or black males. Green and Farquhar (1965) found SCAT verbal scores to be unrelated to academic achievement for black males in high school. Additionally,Thomas and Stanley (1969) provide evidence that high school grades are not valid predictors of college grades for blacks.

The Current Study

In light of the increasing societal emphasis on higher education, valid prediction of academic success for all racial subgroups is a necessity. The current study is concerned with the differential validity for black and white students of academic predictors currently used at the University of Maryland. High school grades, SAT-V, and SAT-M will be examined separately as well as combined in multiple regression equations. The student samples will be broken down by race and sex.

Procedure

Subjects

All subjects were freshmen entering the University of Maryland at College Park in September, 1968. Black students were identified by inspection of identification card photographs. The identification was done by the Cultural Study Center at the University of Maryland in cooperation with the Black Student Union. Two hundred thirty-two black students were identified in this manner; for whom criterion data and complete predictor data (SAT scores and high school grades) were available for 126 (54%): 64 males and 62 females.

A vast majority of new freshmen in 1968 were administered the California Psychological Inventory (CPI). A random sample of 200 was drawn from the CPI files after the black students had been withdrawn from the pool. The sample was drawn on the basis of the last four digits of the social security number. Of the 200, criterion and complete predictor data were available for 178 (89%): 79 males and 99 females. These 178 students constituted the "white" sample, which in actuality was a "non-black" sample, consisting of not only Caucasians but other non-blacks as well. It can be assumed, because of the racial composition of the University, that the white sample is composed almost entirely of Caucasians.

Predictors and Criterion

The University uses a Predictive Index Equation (PIE) which is a multiple regression equation involving high school grades, SAT-V, and SAT-M and which uses the University of Maryland Grade Point Average (MdGPA) at the end of the freshmen year as a criterion. These are the variables examined in this study. The measure of High School Grades (HSGPA) is a normalized measure which converts all high school grading systems to a system which has a mean of 3.00 and a

standard deviation of 1.00. HSGPA is thus not analogous to MdGPA, which has a range of 0.00 to 4.00.

Analysis

Multiple regression analyses were made for the black sample, the white sample, and an integrated sample combining both black and white, using a stepwise multiple regression program. At each step the variable is added which makes the greatest reduction in the error sum of squares (i.e., the variable which, when added, would have the highest F value). As in the PIE, MdGPA was used as a criterion; and HSGPA, SAT-V, and SAT-M were used as predictors. The zero-order Pearson correlations between MdGPA and each of the predictor variables were computed in each of the samples.

The differences between means for each of the variables were tested using a Student t test modified according to the suggestion of Cochran and Cox (1950) allowing disregard of the assumption of equality of variance. The significance of differences between zero-order correlation coefficients was tested according to the method described by Ferguson (1966), using Fisher's z transformation.

The black, white, and combined samples were split randomly (according to the last two digits of the social security number) for cross-validation. For the racially divided groups, a double cross-validation model was used, in which weights from each half of the sample were applied to the opposite half. The cross-validated multiple R's were compared to shrunken multiple R's computed from the Lord-Nicholson formula, the Wherry corrected formula, and the Wherry uncorrected formula, for the racially divided groups.

To check the appropriateness of the PIE weights in each of racially divided samples, the PIE weights were applied in both the black and the white samples.

The correlation of the sum of the weighted variables with MdGPA was then determined . Similarly, the validity of the opposite sample weights was checked; the black weights being applied to the white sample, and the white weights to the black sample.

The racially divided groups were then divided according to sex, yielding four groups: white male, white female, black male and black female. Stepwise multiple regression analyses were performed with these samples as well, but sample size did not permit cross-validation of the multiple regression coefficients. The zero-order Pearson correlations with MdGPA were computed for each of the predictor variables in each sample. Mean differences between groups were tested for all variables, and differences between zero-order correlations with MdGPA were tested in the manner described above for the whole white, whole black, and combined samples.

Results

The results of the major multiple regression analyses are found in Table 1. The multiple R's shown in this table are not cross-validated, however, and must be viewed as inflated estimates. Cross-validated multiple R's for black and white samples are shown in Table 2. The remarkable smallness of shrinkage in these cross-validated multiple R's appears to be some justification for accepting the statistics in Table 1 as indications of at least the relative magnitude of predictability obtainable with each sample. Although the third decimal places of the multiple R's may be meaningless as far as preditability is concerned, they are reported so that the slight differences between the multiple R's and cross-validated R's can be discerned.

Considering the samples divided by race and sex, the multiple R is highest for black females and diminishes for white females, white males and black males, in that order. With sexes combined, whites appear more predictable than blacks. The multiple R with races combined is higher than for either white or black groups alone.

Application of the PIE weights results in very little lowering of the multiple R. Even opposite sample weights yield substantial correlation for the racially divided groups.

Again, cross-validated R's are extremely similar to the original multiple R. The impressiveness of this lack of shrinkage is evident when the cross-validated R's are compared with several shrunken R's calculated from different formulae.

The means, standard deviations and zero-order correlations with MdGPA for all predictor variables are shown in Table 3 for the white, black and combined groups; and in Table 4 for the groups divided by race and sex. Table 5 indicates the differences between groups which are significant both for means and for zero-order correlations for those groups divided by race and sex. Significant groups differences for correlations were found only for the HSGPA.

Table 3 shows that means of the white sample were significantly higher than black means for all three predictors, and the criterion. Correlations of SAT scores with MdGPA were not significantly different between the groups, although correlations tended to be higher for the blacks. HSGPA, on the other hand, predicted MdGPA significantly better for whites than for blacks. Table 3 also shows that standard deviations for blacks were smaller on all variables shown.

Tables 4 and 5 show that many of the mean differences were significant when considering groups divided by sex as well as race. White females had significantly higher means than all three other groups on both HSGPA and MdGPA. They had the highest mean on SAT-V as well, although they were not significantly higher than white males. The means of white groups were significantly higher than the black groups on three out of four variables; the sole exception was HSGPA, on which there were no significant differences between white males and either black males or black females. There were no significant differences, however, between any of the groups in the correlation of SAT scores with MdGPA. The correlation of HSGPA with MdGPA was significantly lower for the black males than all three other groups.

Discussion

The fundamental question throughout the investigation is, in a sentence, "Are there great differences in predictability between black and white populations using academic variables to predict success in college?" Intuitively, based on prior reports of SAT scores for blacks, one might reason that these test results would not be as valid for blacks. The mean scores for blacks have been found in some instances to hover around the score which could be achieved by chance alone (Hills and Gladney, 1966). Even when scores are well above chance-level, blacks tend to cluster near the lower end of the scale. The restrictions of the range of scores brought about by too difficult a test should dictate lower validity. There has been some support in the literature for such hypothesizing. Cleary (1966) found correlations of SAT with grades to be generally lower for blacks in one school and SAT-M to be almost totally invalid for blacks in another school. Evidence provided here is to the contrary, however. There

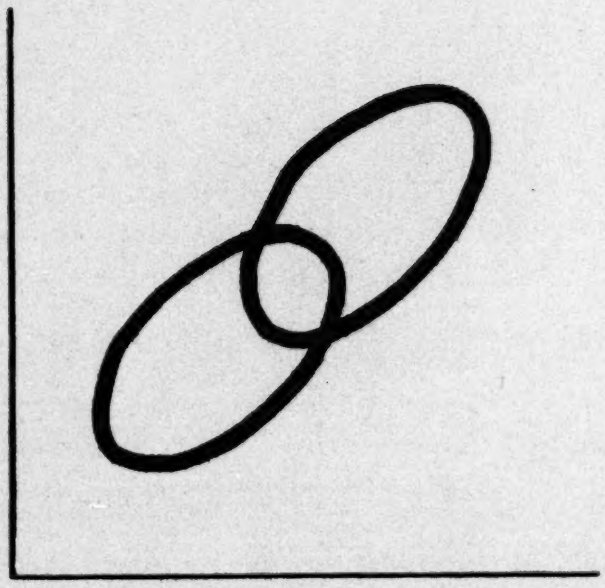
were no significant differences between correlations of SAT-V or -M scores with MdGPA for black and white groups even though significant mean differences were found, the black mean being lower in every instance than the comparable white mean. In fact, correlations for black groups were higher than for comparable white groups. (See Tables 3 and 4). These results corroborate the findings of Hills and Gladney (1966), and McKelpin (1965), who report equal SAT validity for blacks and whites.

Moreover, one might intuitively expect there to be little difference between blacks and whites in the validity of high school grades when predicting college grades. The academic skills and motivation necessary for achievement in high school may be viewed as the same skills and motivation necessary for achievement in college, regardless of race. Results of this study show that the correlation of HSGPA with MdGPA is significantly lower for blacks than for whites. ($p < .05$). HSGPA was a particularly poor predictor of college grades for black males. It would be a temptation to offer as an explanation that high school grades are an indication of merit relative to other students in the classroom. Blacks coming from classrooms in which most students have low ability levels would thus receive an inflated high school grade in comparison with whites coming from classrooms in which most students have more ability. The inflated high school grades for blacks would predict college achievement greater than the students were actually capable of, hence the correlation would be lower. But the hypothesis of inflated HSGPA for blacks is potentially only a partial explanation of the results. It would not explain why HSGPA predicted MdGPA significantly ($p < .05$) better for black females than for black males, when both presumably came from the same classrooms.

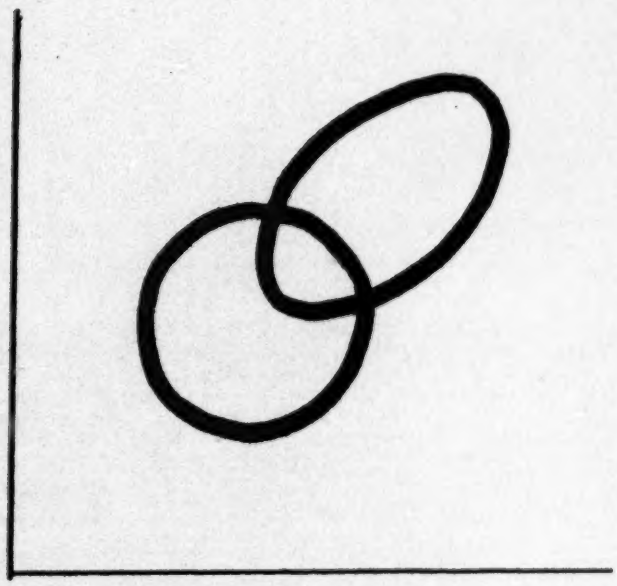
That HSGPA is a poorer predictor for blacks than for whites has been found in numerous schools. Cleary (1966) found substantial validity for high school grades for both races in one school; but in a second, high school rank was essentially unrelated to grades for blacks. Thomas and Stanley (1969) offer several possible explanations. They suggest that high school grades may be invalid indicators of academic success because high school teachers consider behavior and other irrelevant factors in assigning a grade. The behavior of males is more aggressive, particularly among lower socio-economic groups; hence, the grades for black males may be particularly distorted. A second possible explanation is the unreliability of grade reporting in black high schools. Thomas and Stanley further point out that the work of Hoyt and Norman (1954), Frederiksen and Melville (1954), and others indicates that personality characteristics are related to predictability. Differences between races in these characteristics may account for lack of validity. Thomas and Stanley (1969) offer restriction in range as a final possible explanation.

Restriction of range is a potential problem in all the data in the present study since Table 3 indicates that blacks had smaller standard deviations than whites on all variables studied.

Summarizing the zero-order correlation data, it could be said that the first model of Bartlett and O'Leary (1969) appears the most appropriate for SAT scores: that of equal validity in subgroups but differing means. Racial moderation yields no increase in predictability. HSGPA resembles Model 8: predictor more valid in one subgroup than another, with concommittant difference in means.



Model 1



Model 8

Very little difference in predictability exists between the racial groups when the predictors are combined in a multiple regression equation. All of the multiple R's, including those for the racially and sexually divided groups, are virtually identical, ranging between .61 and .67 (Table 1). Traditionally, females have been found not only to do better in school, but also to be more predictable. Abelson (1952) found this to be true in a racially homogenous sample; Stanley and Porter (1967) found multiple R's combining SAT-V, SAT-M and high school grades to be higher for both white and black females than either male group. Also here, however minimal the difference, the multiple R's were higher for both female groups than for either male group.

It must be noted again that these multiple R's are not cross-validated. Cross-validation was performed for sexually integrated racial groups, as well as for a combined black and white group. The lack of shrinkage was remarkable. The largest drop was .05 for the racially combined group. When compared with the amount of shrinkage that could be expected as determined by several formulae,

the stability of the multiple R's is even more impressive. Knerr (1968) has documented the inadequacy of estimating shrunken multiple R's from such formulae, pointing out instances in which formulae have drastically underestimated shrinkage. The gross over-estimation of shrinkage in this case casts further doubt on the feasibility of using formulae instead of cross-validation.

The most fundamental facet of the question of racial differences in academic prediction is the appropriateness of using common weights in a prediction equation. The University of Maryland and most other universities have developed such equations for selecting their freshmen classes. At Maryland, the equation is known as the Predictive Index; and there are several versions, depending on the amount and kind of predictor data available for the individual applicant. One of these equations utilizes normalized high school average based on 10th, 11th and 12th grades, SAT-V, and SAT-M. When these weights were applied to the black and white samples, the multiple R's were very close to those obtained using optimum weights derived for the specific samples which capitalized on chance differences. A drop of only .008 was observed in the white sample, and one of .03 was observed in the black sample. In other words, weights derived on a random sample of the entire student population, which at Maryland is predominantly white, are appropriate for both races.

Even weights derived on the sample of the opposite race could be applied with substantial validity. Black weights applied to the white sample yielded a multiple R which was only .05 lower than the multiple R using optimum weights. Similarly, white weights applied to the black sample produced a multiple R only .09 below the optimum.

Considering all the evidence, the, it can be said that for the samples of whites and blacks employed in this study, the PIE works about as well for blacks as it does for whites. However, the reader is cautioned against the danger of

generalizing these results to all blacks with the ability to do college work. It is quite likely that there are some variables operating in the determination of the black sample which may mask potential racial differences.

For instance, the type or types of blacks who are attracted to higher education in general, or to the University of Maryland specifically, with its "white" image and negative racial publicity (e.g., the Maryland state system of higher education is currently under an HEW desegregation order) may not be very representative of all blacks with the potential to do college work. The sample of blacks in this study, which was, in fact, every known black available, not only began their work at Maryland, but they must have stayed in school for the full year in order to obtain a MdGPA. Hence the blacks studied here may have more initially accepted white cultural values and felt more comfortable or adjusted more to the University than other blacks.

Support for this explanation can be found in Sedlacek and Brooks (1970) in their survey of the numbers of blacks entering the large, predominantly white institutions. They concluded that despite the apparent effforts of white institutions to attract blacks, the national median of new black freshmen in the fall of 1969 was 3% in these schools. Hartnett (1969) compared attitude and orientation of black students attending traditionally black and white colleges and concluded that there were large differences among them. Borgen (1970) provided evidence that there are marked differences in background characteristics among high ability blacks choosing different kinds of institutions to attend. Additionally, the reader is reminded that on page 8 of this report data were available on 54% of the blacks compared to 89% of the whites. This may have caused sampling problems. Missing data were both SAT and MdGPA; however, a study by Di Cesare, Sedlacek and Brooks (1970) indicated that only 15% of the black

undergraduates enrolled at the University of Maryland (College Park) in the fall of 1969 did not enroll for the next semester.

While some of the points presented above apply to whites, it is likely, for example, that many variables involved in blacks deciding to attend the University of Maryland are different than those of whites.

Thus any predominantly white institution interested in increasing its black enrollment should keep a close watch on the predictors and criteria it is employing so that it at least gets a chance to study and determine how many different blacks may do at the school. Although the results of this study indicated that SAT's and the Predictive Index were equally predictive of grades for blacks and whites, the need for studying the predictability of blacks continues; particularly in view of the fact that high school grades were found to be invalid predictors for blacks.

The purpose of this particular study was to examine the selection procedures currently employed by the University of Maryland. A second phase of the admissions research program conducted by the Cultural Study Center will be an extensive examination of many other possible predictors and criteria of black student success which may be already available at the University. A third phase will involve the search for and development of uniquely black predictors and criteria from the black communities and cultures.

Table 1.

Multiple R's and Standard Errors of Estimate

Sample	Multiple R	Standard Error of Estimate	R With Predictive Index Weights	R With Opposite Sample Weights
Total Black Sample N=126	.614	.541	.575	.519
Total White Sample N=178	.654	.670	.646	.601
White & Black Sample Combined N=304	.666	.632		
Black Male N=64	.606	.517		
White Male N=79	.630	.706		
Black Female N=62	.671	.548		
White Female N=99	.649	.645		

Table 2.

Cross-validated Multiple R's, and Shrunken R's Computed from Formulae

Sample	Multiple R	Cross-Validated R	Lord-Nicholson Formula	Wherry Uncorrected Formula	Wherry Corrected Formula
Black # 1 N=64	.61	.59	.53	.58	.58
Black # 2 N=64	.64	.62	.58	.63	.62
White # 1 N=89	.62	.61	.57	.60	.60
White # 2 N=89	.70	.69	.66	.69	.69
Combined White & Black N=152	.67	.62			

Table 3.

Means***, Standard Deviations and Correlations with MdGPA

(Black N=126, White N =178, Combined N=304)

	Mean	Standard Deviation	r with MdGPA
Black HSGPA	2.72	.92	.44 *
White HSGPA	3.17 **	1.00	.64
White & Black Combined HSGPA	2.99	.99	.60
Black SAT-V	423.5	80.0	.50
White SAT-V*	501.8	95.4	.46
White & Black Combined SAT-V	469.4	97.2	.54
Black SAT-M	435.8 **	89.9	.41
White SAT-M *	533.1	98.9	.31
White & Black Combined SAT-M	492.8	106.5	.43
Black MdGPA	1.69	.68	
White MdGPA	2.22 **	.88	
Black & White Combined MdGPA	2.00	.84	

* Significant at the .001 level
** Significant at the .05 level
*** Means for all freshmen at the University of Maryland for Fall, 1968, as reported by the Counseling Center, were SAT-V=494 and SAT-M=523.

Table 4.

Means, Standard Deviations and Correlations with Md GPA

	Mean	Standard Deviation	r With Md GPA
Black Male HSGPA (N=64)	2.54	.85	.23
White Male HSGPA (N=79)	2.85	1.00	.58
Black Female HSGPA (N=62)	2.92	.95	.60
White Female HSGPA (N=99)	3.41	.94	.65
Black Male SAT-V	427.8	80.3	.56
White Male SAT-V*	490.1	101.6	.51
Black Female SAT-V	419.1	80.1	.47
White Female SAT-V	511.1	89.6	.39
Black Male SAT-M	466.5	86.1	.46
White Male SAT-M*	555.8	96.3	.41
Black Female SAT-M	404.2	82.8	.49
White Female SAT-M	514.9	97.6	.35
Black Male MdGPA	1.64	.63	
White Male MdGPA	1.99	.89	
Black Female MdGPA	1.75	.72	
White Female MdGPA	2.40	.83	

* Means for all freshmen at the University of Maryland for Fall, 1968, as reported by the Counseling Center, were:

	SAT-V	SAT-M
Male	494	549
Female	495	497

Table 5a.

Significance Level of Mean HSGPA Differences (Using t)

	Black Male	White Female	Black Female
White Male	n.s.	.001	n.s.
Black Male		.001	.05
White Female			.01

Table 5b.

Significance Level of Mean SAT-V Differences (Using t)

	Black Male	White Female	Black Female
White Male	.001	n.s.	.001
Black Male		.001	n.s.
White Female			.001

Table 5c.

Significance Level of Mean SAT-M Differences (Using t)

	Black Male	White Female	Black Female
White Male	.001	.01	.001
Black Male		.01	.001
White Female			.001

Table 5d.

Significance Level of Mean MdGPA Differences (Using t)

	Black Male	White Female	Black Female
White Male	.01	.01	n.s.
Black Male		.001	n.s.
White Female			.001

Table 5e.

Significance Level of Correlations of HSGPA with MdGPA

	Black Male	White Female	Black Female
White Male	.05	n.s.	n.s.
Black Male		.01	.05
White Female			n.s.

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